



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**19.01.2005 Bulletin 2005/03**

(51) Int Cl.7: **B23K 20/12, B23K 20/227**

(21) Application number: **04016335.4**

(22) Date of filing: **12.07.2004**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR**  
**HU IE IT LI LU MC NL PL PT RO SE SI SK TR**  
 Designated Extension States:  
**AL HR LT LV MK**

(30) Priority: **15.07.2003 JP 2003274983**

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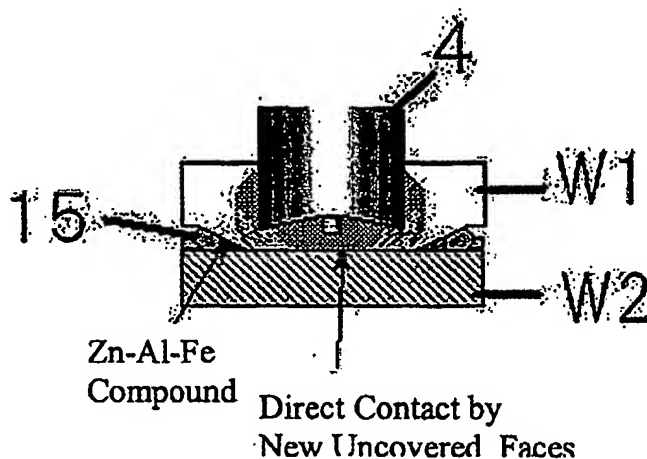
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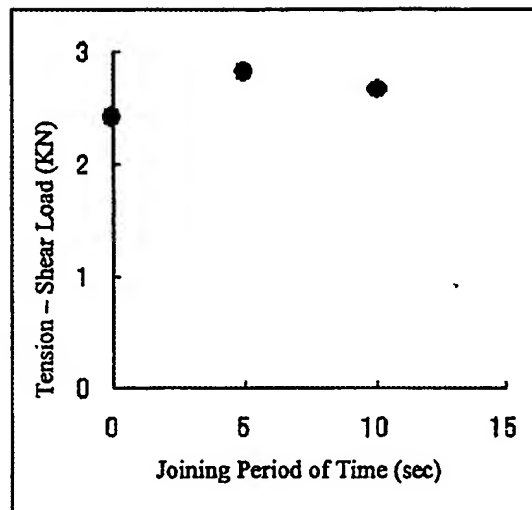
(54) **Friction stir welding method and friction stir welded structure**

(57) An aluminium plate (W1) and a steel plate (W2) are lapped. A rotating tool (4) is placed on the aluminium plate (W1), and then a pressing force and a rotational force around a pressing axis of the rotating tool (4) are applied to the aluminium plate (W1) and the steel plate (W2). A zinc plating layer (15) having oxidation-prevention function is formed on the surface of the steel plate

(W2) in advance. When joining the both plates (W1, W2) an oxidation film formed on the aluminium plate (W1) is destroyed and the zinc plating layer (15) is pushed out outward from a joining portion, by applying the above pressing force and frictional heat and plastic flow due to the rotation of the rotating tool (4). Thereby, respective new uncovered surfaces of the both plates (W1, W2) are directly contacted.

**FIG. 9**





**FIG. 26**

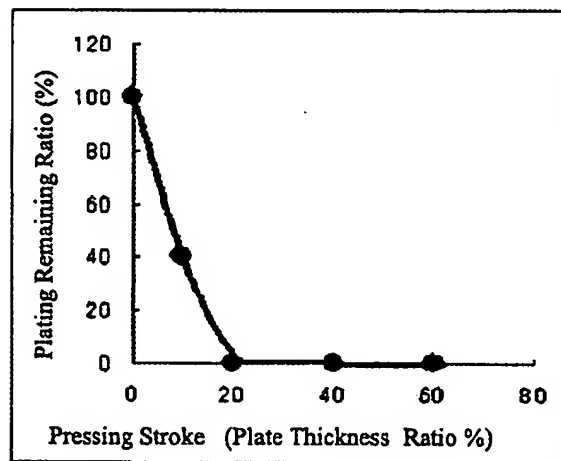
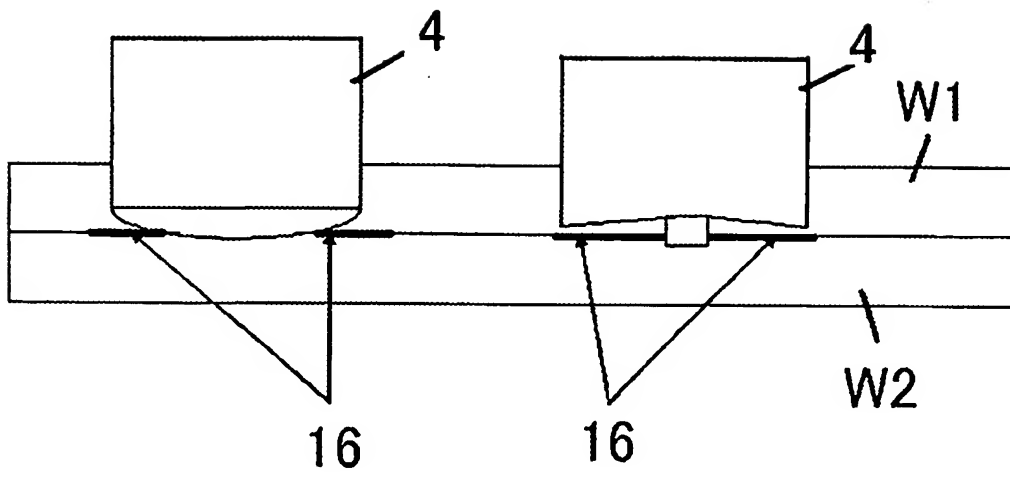


FIG. 27

FIG. 28





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# EUROPEAN SEARCH REPORT

Application Number  
EP 04 01 6335

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EPO FORM 1503 (03.02.2001)



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